

IN THE CLAIMS:

Cancel German-language claims 1-59 and insert new claims 60-91:

Claims 1 - 59. (canceled)

60. (New) A sensor surface with covalently-immobilized specific probe molecules for at least one biomolecule to be detected, wherein positions on or regions of the sensor surface that are available in principle for nonspecific binding are inactivated by at least one blocking reagent covalently immobilized thereon, obtainable by a method in which the sensor surface is covered with the blocking reagent after a covalent immobilization of the probe molecule, and the blocking reagent comprises at least one photoreactive crosslinker having at least one photoreactive group suitable for covalent immobilization onto the sensor surface by irradiation.

61. (New) The sensor surface as recited in Claim 60, wherein said probe molecules form an addressable pattern.

62. (New) The sensor surface as recited Claim 60, wherein said photoreactive group is selected from the group consisting of benzophenone and derivatives thereof, anthraquinone and derivatives thereof, thymidine and derivatives thereof, and 4-azidobenzoic acid and derivatives thereof.

63. (New) A sensor surface as recited in Claim 60, wherein the sensor surface is selected from the group consisting of metal, semimetal, semimetal oxide, glass, and polymer surface.

64. (New) The sensor surface as recited in Claim 63, wherein the metal surface is selected from the group consisting of gold and aluminum surfaces.
65. (New) The sensor surface as recited in Claim 63, wherein the semimetal surface is a silicon surface.
66. (New) The sensor surface as recited in Claim 63, wherein the semimetal oxide surface is a silicon oxide or aluminum oxide surface.
67. (New) The sensor surface as recited in Claim 63, wherein the glass surface is a quartz glass surface.
68. (New) The sensor surface as recited in Claim 63, wherein the polymer surface is selected from the group consisting of surfaces of a cyclolefin copolymer and derivatives thereof, polystyrene and derivatives thereof, polyethylene and derivatives thereof, polypropylene and derivatives thereof, polyimide and derivatives thereof, and poly(methyl methacrylate) and derivatives thereof.
69. (New) A sensor surface as recited in Claim 60, wherein the probe molecule is a partner in a specific receptor/ligand interaction system.
70. (New) The sensor surface as recited in Claim 69, wherein said specific receptor/ligand interaction system is selected from the group consisting of an interaction between a nucleic acid with a complementary nucleic acid, an interaction of a peptide nucleic acid with a nucleic acid, an enzyme/substrate interaction, a receptor/effector interaction, a lectin/sugar interaction, an antibody/antigen interaction, an avidin/biotin interaction, and a streptavidin/biotin interaction.

71. (New) The sensor surface as recited in Claim 70, wherein the nucleic acid is selected from the group consisting of DNA, RNA, and analogs thereof.
72. (New) The sensor surface as recited in Claim 71, wherein the DNA or RNA is an oligonucleotide.
73. (New) The sensor surface as recited in Claim 70, wherein said antibody is selected from the group consisting of polyclonal, monoclonal, chimeric, and single-chain antibodies, and functional fragments and derivatives of such antibodies.
74. (New) A sensor surface as recited in Claim 60, wherein the blocking reagent is selected from the group consisting of casein, hydrolyzed casein, a surfactant, bovine serum albumin, fetal calf serum, newborn calf serum, and mixtures thereof.
75. (New) The sensor surface as recited in Claim 74, wherein said surfactant is selected from the group consisting of sodium palmitate, Brij® 35, Brij® 58, cetylpyridinium chloride monohydrate, cetyltrimethylammonium bromide, 3-[(3-cholamidopropyl)dimethylammonio]-1-propanesulfonate, 3-[(3-cholamidopropyl)dimethylammonio]-2-hydroxy-1-propanesulfonate, decane-1-sulfonic acid sodium salt, N,N-bis-[3-(D-gluconamido)propyl]deoxycholamide, dodecane-1-sulfonic acid sodium salt, dodecyl- β -D-maltoside, 6-O-(N-heptylcarbamoyl)methyl- α -D-glucopyranoside, heptane-1-sulfonic acid sodium salt, N-lauroylsarcosine sodium salt, octanoyl-N-methylglucamide, N-nonaoyl-N-methylglucamide, sodium cholate, sodium deoxycholate, nonane-1-sulfonic acid sodium salt, Nonidet P40, octane-1-sulfonic acid sodium salt, n-octyl- β -D-glucopyranoside, pentane-1-sulfonic acid sodium salt, n-octyl- β -D-thioglucopyranoside, Pluronic® F-68, saccharose monolaurate, sodium dodecyl

sulfate, N-dodecyl-dimethyl-3-ammonio-1-propanesulfonate, N-tetradecyl-dimethyl-3-ammonio-1-propanesulfonate, Triton® X-100, and mixtures thereof.

76. (New) A method for detecting the presence of analytes in a sample to be tested through the use of surface-bound receptor molecules, wherein a sensor surface as recited in Claim 60 is used.
77. (New) An apparatus for detecting the presence of analytes in a sample to be tested through the use of surface-bound receptor molecules, wherein the apparatus possesses a sensor surface as recited in Claim 60.
78. (New) A kit for detecting the presence of analytes in a sample to be tested through the use of surface-bound receptor molecules, wherein the kit contains a sensor surface as recited in Claim 60 and optionally contains buffers and assay reagents.
79. (New) A blocking reagent, wherein the blocking reagent has at least one photoreactive group for covalent immobilization on a sensor surface.
80. (New) A blocking reagent as recited in Claim 79, wherein the blocking reagent is selected from the group consisting of casein, hydrolyzed casein, a surfactant, bovine serum albumin, fetal calf serum, newborn calf serum, and mixtures thereof.
81. (New) A blocking reagent as recited in Claim 80, wherein the surfactant is selected from the group consisting of sodium palmitate, Brij® 35, Brij® 58, cetylpyridinium chloride monohydrate, cetyltrimethylammonium bromide, 3-[(3-cholamidopropyl)dimethylammonio]-1-propanesulfonate, 3-[(3-cholamidopropyl)dimethylammonio]-2-hydroxy-1-propanesulfonate, decane-1-sulfonic acid sodium salt, N,N-bis-[3-(D-gluconamido)propyl]deoxycholamide,

dodecane-1-sulfonic acid sodium salt, dodecyl- β -D-maltoside, 6-O-(N-heptylcarbamoyl)methyl- α -D-glucopyranoside, heptane-1-sulfonic acid sodium salt, N-lauroylsarcosine sodium salt, octanoyl-N-methylglucamide, N-nonaoyl-N-methylglucamide, sodium cholate, sodium deoxycholate, nonane-1-sulfonic acid sodium salt, Nonidet P40, octane-1-sulfonic acid sodium salt, n-octyl- β -D-glucopyranoside, pentane-1-sulfonic acid sodium salt, n-octyl- β -D-thioglucopyranoside, Pluronic® F-68, saccharose monolaurate, sodium dodecyl sulfate, N-dodecyl-dimethyl-3-ammonio-1-propanesulfonate, N-tetradecyl-dimethyl-3-ammonio-1-propanesulfonate, Triton® X-100, and mixtures thereof.

82. (New) A blocking reagent as recited in Claim 79, wherein said minimum of one photoreactive group is selected from among benzophenone and derivatives thereof, anthraquinone and derivatives thereof, thymidine and derivatives thereof, and 4-azidobenzoic acid and derivatives thereof.
83. (New) A method for the production of a blocking reagent, wherein at least one blocking reagent as recited in Claim 79 is reacted with at least one crosslinker that possesses at least one photoreactive group.
84. (New) The method as recited in Claim 83, wherein the minimum of one photoreactive group is selected from among benzophenone or derivatives thereof, anthraquinone or derivatives thereof, thymidine or derivatives thereof, and 4-azidobenzoic acid or derivatives thereof.
85. (New) A kit for the production of a sensor surface, wherein
the sensor surface has covalently-immobilized specific probe molecules for at least one biomolecule to be detected, wherein positions on or regions of the sensor

surface that are available in principle for nonspecific binding are inactivated by at least one blocking reagent covalently immobilized thereon, obtainable by a method in which the sensor surface is covered with the blocking reagent after a covalent immobilization of the probe molecule, and the blocking reagent comprises at least one photoreactive crosslinker having at least one photoreactive group suitable for covalent immobilization onto the sensor surface by irradiation; and

wherein the kit contains the least one blocking reagent covalently immobilized on the sensor surface by means of at least one photoreactive group, and, optionally, buffers and assay reagents.

86. (New) A method for producing a sensor surface, comprising the following steps:

(a) covalent immobilization of the probe molecules on the sensor surface;

(b) covalent immobilization of the blocking reagent comprising at least one photoreactive crosslinker with at least one photoreactive group onto the sensor surface by irradiation to produce a sensor surface with covalently-immobilized specific probe molecules for at least one biomolecule to be detected, wherein positions on or regions of the sensor surface that are available in principle for nonspecific binding are inactivated by at least one blocking reagent covalently immobilized thereon.

87. (New) A method as recited Claim 86, wherein said photoreactive group is selected from the group consisting of benzophenone and derivatives thereof, anthraquinone and derivatives thereof, thymidine and derivatives thereof, and 4-azidobenzoic acid and derivatives thereof.

88. (New) A method according to Claim 86, wherein the sensor surface is selected from the group consisting of metal, semimetal, semimetal oxide, glass, and polymer surface.
89. (New) A method according to Claim 86, wherein said probe molecule is a partner in a specific receptor/ligand interaction system.
90. (New) A method according to Claim 86, wherein said blocking reagent is selected from the group consisting of casein, hydrolyzed casein, a surfactant, bovine serum albumin, fetal calf serum, newborn calf serum, and mixtures thereof.
91. (New) A method according to Claim 90, wherein said surfactant is selected from the group consisting of sodium palmitate, Brij® 35, Brij® 58, cetylpyridinium chloride monohydrate, cetyltrimethylammonium bromide, 3-[(3-cholamidopropyl)dimethylammonio]-1-propanesulfonate, 3-[(3-cholamidopropyl)dimethylammonio]-2-hydroxy-1-propanesulfonate, decane-1-sulfonic acid sodium salt, N,N-bis-[3-(D-gluconamido)propyl]deoxycholamide, dodecane-1-sulfonic acid sodium salt, dodecyl- β -D-maltoside, 6-O-(N-heptylcarbamoyle)methyl- α -D-glucopyranoside, heptane-1-sulfonic acid sodium salt, N-lauroylsarcosine sodium salt, octanoyl-N-methylglucamide, N-nonaoyl-N-methylglucamide, sodium cholate, sodium deoxycholate, nonane-1-sulfonic acid sodium salt, Nonidet P40, octane-1-sulfonic acid sodium salt, n-octyl- β -D-glucopyranoside, pentane-1-sulfonic acid sodium salt, n-octyl- β -D-thioglucopyranoside, Pluronic® F-68, saccharose monolaurate, sodium dodecyl sulfate, N-dodecyl-dimethyl-3-ammonio-1-propanesulfonate, N-tetradecyl-dimethyl-3-ammonio-1-propanesulfonate, Triton® X-100, and mixtures thereof.